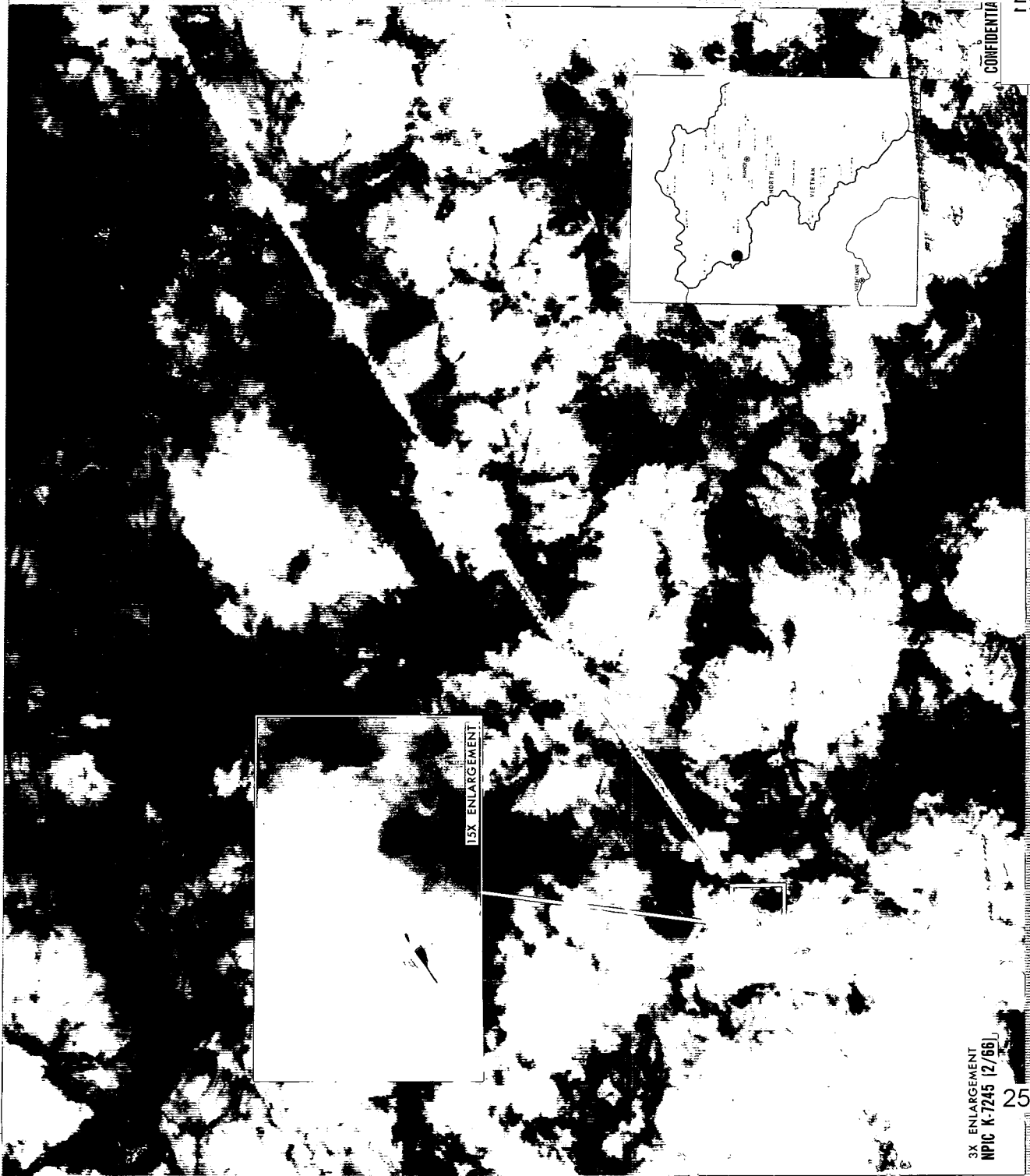


NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

FISHBED (MIG 21) IN FLIGHT
NORTH VIETNAM
21-17N 103-19E

CONFIDENTIAL



15X ENLARGEMENT

3X ENLARGEMENT
NPIC K-7245 (2/66)

25X25X1
CONFIDENTIAL

25X1

K-7245
TROJAN HORSE NORM 1 (7029)

10 FEBRUARY 1966
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FISHBED (MIG-21) IN FLIGHT
NORTH VIETNAM
2117N 10319E

1. SIGNIFICANCE:

THIS BRIEFING BOARD DEPICTS THE FIRST MIG-21 AIRCRAFT PHOTOGRAPHED IN FLIGHT OVER THE DRV AND THE FIRST IDENTIFICATION OF PROBABLE AAM'S ON AIRCRAFT OVER THE DRV.

2. REMARKS:

ON 23 DECEMBER
1965 SEVEN FISHBED (MIG-21) AIRCRAFT AND FOUR CANVAS-COVERED
PROBABLE FISHBED AIRCRAFT WERE OBSERVED AT PHUC YEN AIRFIELD.

AS OF 05 OCTOBER 1965 THERE WAS NO EVIDENCE THAT NORTH VIETNAM POSSESSED ANY GUIDED AIR-TO-AIR MISSILES (AAM'S). THE MOST LIKELY AAM FOR USE IN VIETNAM WOULD BE THE SOVIET AA-2 (ATOLL), AN INFRARED HEAT-SEEKING MISSILE. NORMALLY ASSOCIATED WITH THE FISHBED, IT IS A RELATIVELY SIMPLE MISSILE AND COULD BE INSTALLED ON ALMOST ANY JET FIGHTER CAPABLE OF ACHIEVING THE MACH 0.8 SPEED NECESSARY FOR LAUNCH -- WHICH WOULD INCLUDE THE MIG 15/17 FIGHTERS IN THE DRV. THE INFRARED HEAD ON THE AA-2 ITSELF DETECTS THE TARGET AND GIVES THE PILOT AN AUDIO SIGNAL; WHEN ITS INTENSITY BECOMES SUFFICIENT FOR MISSILE LOCK-ON, THE SIGNAL CHANGES FREQUENCY AND LEVEL. THE ONLY PROBLEM REMAINING IS TO ENSURE THAT THE TARGET IS WITHIN THE

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downgrading and
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MISSILE'S FLIGHT RANGE (5-6 NM FOR THE LATEST MODEL, 2-3 NM FOR THE ORIGINAL MODEL) BEFORE FIRING. THE AA-2 SYSTEM IS ACCURATE AND RELIABLE BUT HAS ITS SHORTCOMINGS. ITS EFFECTIVENESS DROPS SHARPLY AGAINST BRIGHT CLOUD BACKGROUNDS, IN CLOUDS OR HAZE, OR WHEN THE TARGET IS NEAR THE DIRECTION OF THE SUN.

FOR A TRUE ALL-WEATHER AAM CAPABILITY THE NORTH VIETNAMESE WOULD REQUIRE EITHER A BEAM-RIDER OR A SEMI-ACTIVE HOMING MISSILE. THE MOST LIKELY CANDIDATE WOULD BE THE SOVIET AA-1 (ALKALI), A BEAM-RIDER WITH A RANGE OF 3-4 NM. THE BEAM-RIDER MISSILE REQUIRES A SPECIFIC TYPE OF AIRBORNE-INTERCEPT (AI) RADAR IN THE FIGHTER AIRCRAFT. THERE NOW ARE A FEW FRESCO D/E (MIG 17PF) FIGHTERS WITH AI RADAR IN NORTH VIETNAM, BUT THERE IS NO EVIDENCE THAT THESE FIGHTERS ARE ARMED WITH MISSILES.

3. DIMENSIONS/SPECIFICATIONS:

AA-2 (ATOLL) - IR SEMIACTIVE RADAR HOMING AIR-TO-AIR MISSILE:

TOTAL WEIGHT:	167 LB.
OVERALL LENGTH:	9.3 FT.
DIAMETER:	.4 FT.
PROPELLANT:	SOLID/38 LB.
WARHEAD:	25 LB. - BLAST CONTROLLED FRAGMENTATION WARHEAD
MAXIMUM MISSILE VELOCITY:	1820 FT/SEC PLUS SPEED OF LAUNCHING AIRCRAFT
LAUNCH MODE:	PURE PURSUIT

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AA-1A (ALKALI) BEAM-RIDER AIR-TO-AIR MISSILE:

TOTAL WEIGHT:	180 LB.
OVERALL LENGTH:	8.0 FT.
DIAMETER:	.7 FT.
WARHEAD TYPE/WEIGHT:	HE-BLAST FRAGMENTATION/35 LB.
LAUNCH MODE:	PURE PURSUIT

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5. MISSION READOUT:

TROJAN HORSE NORM 1, 06 FEBRUARY 1966, REVEALS A FISHBED (MIG-21) FIGHTER AIRCRAFT IN FLIGHT WITH ONE PROBABLE AAM ON EACH WING RAIL. THE AIRCRAFT IS HEADING EAST AT APPROXIMATELY 65,000 FEET. NO OTHER AIRCRAFT ARE OBSERVED. IMAGE BLURRING PRECLUDES A MORE DETAILED INTERPRETATION.

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